

the optic including polyurethane elastomers, hydrogel plastics, collagen, organic or synthetic gels, or combinations of these materials. The insert means could be made of any material which would not be damaged during the process of molding the optic about it, for example polysulphone. Other material could be used, such as engineering thermoplastics, thermoset plastics, ceramic, metal or composite materials.

These and other features of the present invention will be appreciated when one reads the following description of the preferred embodiment of the invention taken together with the following drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows an intraocular lens utilizing the present invention to connect a soft optic with flexible haptics shown in plan view;

FIG. 2 shows a side view of the lens of FIG. 1;

FIG. 3 shows a partial detail plan view of a portion of the lens shown in FIG. 1;

FIG. 4 shows a partial top view of the portion of the lens shown in FIG. 3 taken along lines 4—4 in FIG. 3; and

FIG. 5 shows a partial perspective view of the lens of FIG. 1.

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIG. 1 there is shown a representative intraocular lens 10 with which the present invention can be used. Lens 10 has an optic 12 made preferably of silicone, but alternatively, of any flexible biocompatible material like polyurethane elastomers, hydrogel plastics, collagen, organic or synthetic gels or any combination of these materials. Extending from optic 12 are two filamentary supporting members, or haptics 14 and 16 preferably made of polypropylene or polymethylmethacrylate, but alternatively made of any suitable haptic support material. The configuration of the haptics can be any of the conventional configurations used for the manufacture of intraocular lenses. The configuration of the haptics shown in FIG. 1 is what is conventionally referred to as the modified "J-loop" configuration.

Insert means 20 attach haptics 14 and 16 to optic 12, and can be made of any material which would not be damaged during the manufacturing process for embedding it in the optic. For a silicone optic, a polysulphone insert could be used or other suitable material depending on the material of which the optic is made. The insert means can be made using traditional manufacturing processes. For example, if the insert means is derived from a polymeric material, it can be fabricated

from such polymeric material by molding or casting, machining or any other conventional plastic processing.

Referring now to FIGS. 3 and 4, insert means 20 includes an optic attachment member 22 embedded within optic 12. Member 22 has a relatively large aperture 24 completely through it with a surrounding periphery 26. When the optic 12 is molded about the optic attachment member of the insert means in a suitable mold cavity configuration for the desired shape of the optic, the material of which the optic is made fills aperture 24 to lock optic attachment member 22 into optic 12. Insert means 20 also includes a haptic attachment member 30 integrally bound to optic attachment member 22 at or near the peripheral edge 28 of optic 12. Haptic attachment member 30 includes a bore 32 therein for receiving one end of haptic 16. Haptic 16 may be attached to haptic attachment member 30 by bonding, welding, crimping or any of the well-known methods of attaching haptics to optics.

The insert of the present invention allows one to use any desired method of attaching haptics to the flexible optic by selecting the properties of the material from which insert means 20 is made.

The invention has been described in conjunction with the preferred embodiment. Those skilled in the art will appreciate that many modifications and changes may be made to the preferred embodiment without departing from the scope of the invention. It is, therefore, not intended to limit the present invention except as set forth in the appended claims.

I claim:

1. A soft intraocular lens of the type having a flexible molded optic, a haptic for supporting said optic within the eye, and insert means for attaching said haptic to said flexible optic, the improvement wherein the insert means comprises:

an optic attachment member having an aperture therethrough, said flexible optic molded about said optic attachment member and within said aperture so as to securely fasten said optic attachment member to said optic; and

a haptic attachment member integral with said optic attachment member having a bore therein for receiving said haptic.

2. The lens of claim 1 wherein said lens has two haptics, and said insert means are used to attach each haptic to said flexible optic.

3. The lens of claim 1 wherein said haptic is composed of polypropylene.

4. The apparatus of claim wherein said haptic is composed of polymethylmethacrylate.

\* \* \* \* \*